Alpha Particles
  Detection of, advantages of CaF_2 over ZnS for scintillation 188
Americium-241
  Ingestion by cattle on contaminated range 285
  Removal of $^{241}AmO_2$ particles inhaled by beagle dogs 123
Atomic Bomb Survivors
  Radiation doses to, cancer risks and neutron RBE for revised 666
  Radiation doses to, revised 663

Beta Emitters
  Wipe test contamination at medical centers, economical and rapid detector for 414
Beta Particles
  Dose rates to skin, measurement using Si diode 371
Buildings
  Radon exhalation rates of dwellings in Poland 548
  Radon-222 concentration in houses using stone magazines for heat accumulation 29
  Radon-222 content in, effect of insulation on 686
Bulgaria
  Electromagnetic radiation standards in, rf 201

Canada
  Fallout from Chinese nuclear explosion 449
Carcinogensis (see also Neoplasms)
  Analysis of inhalation, of repeated exposures to $^{239}PuO_2$ in rats 629
  Risk from exposure to Rn daughters associated with radon spas 807
  Risk probability 418
Cattle
  See Ruminants
Cesium-137
  Concentrations in honey 554
  Uptake by plants, aging effect on 293
China
  Nuclear energy and radiation protection activities 581
  Radiation applications in, beneficial 577
  Radioactivity environmental monitoring in Taiwan 489
  Titles of papers published by Chinese Radiation Protection Society 585
Coal Dust
  Radionuclide dissolution from neutron-activated, sterile method for testing 547
Cobalt-60
  Content in Columbia River biota following Hanford reactors' closure 59
  Content in sewage sludge as indicator of nuclear power plant releases 815
  Fixation and mobilization on sediments in coastal environments 645
Curium-244
  Uptake by crops from naturally weathered contaminated soil 69

Dielectric Track Detectors
  Performance as rem-equivalent neutron dosimeter at 1 eV - 14 MeV 349
  Sensitivity of Kodak-Pathe LR-115 for neutrons 505
  Use for personnel neutron dosimetry, recent developments in 686
Dogs
  Americum-241 oxide particles inhaled by beagle, removal of 123
  Ruthenium-106 oxide inhalation by beagles, metabolism dosimetry of 303
DTPA
  Radiation dose to bladder wall following administration of ^{99m}Tc-DTPA 777
  Use of Puchel and DTPA for $^{238}PuO_2$ removal from hamster lungs 387

Ecosystems (see also Plants, Soils, Water)
  Cobalt-60 fixation and mobilization on sediments in coastal 645
  Radionuclide content in Columbia River biota following Hanford reactors' closure 59
Electrets
  Performance for measuring radon and thoron in air 35
Electromagnetic Radiation
  Standards for rf, in People's Republic of Bulgaria 201

Fallout
  Radiation exposure to offsite population from Nevada nuclear tests, 1951 - 1970 243
  Strontium-90 collection, regional representativeness of 823
Food Chains
  Evaluation of terrestrial pathways of radionuclide particulates into foods 735
  Iodine-131 transport via pasture-cow-milk pathway, two-compartment model for 155
Food Products
  Radionuclide concentrations in honey 554
  Uranium trace content in spices and condiments 680
France
  Blood Pb and ^{210}Pb origins in residents of Toulouse 483

Gamma Radiation
  Dose estimates for Hiroshima and Nagasaki, revised 663
  Dose from finite plumes 319
  Submersion dose of, air-ground interface effect on 759
Germany
  Lead-210 and polonium-210 concentrations in surface air near Munich, 1976 - 1979 495

Hamsters
  See Rodents
Health Physics
  Scientometric study of 233
Health Physics Society
  President's message, 1981 1
Hematologic System
  Failure in man, model based on mammalian radiation lethality 83
Human Populations (see also Man)
  Blood Pb and ^{210}Pb origins in residents of Toulouse, France 483
  Distribution determination from county-oriented data base 551
  Doses due to Rn in public water supplies in Houston, Texas 599

Iodine-131
  Content in thyroids of meadow voles near Three Mile Island Plant 297
  Transport via pasture-cow-milk pathway, two-compartment model for 155
Ionization Chambers
  Comparison with film badge for personnel dosimetry 835
  Description of Bumble Bee, for Hanford site monitoring 187
  Response of Andersson-Braun rem counter to various neutron spectra 671
IRPA
  Overview of 5th International Congress 3
Irradiation Facilities
  Doses during Gammacell-220 drawer transit 527
Italy
  Radon progeny concentration in open air and interiors in 23

Japan
  Dose estimates at Hiroshima and Nagasaki, revised 663

Krpton
  Gamma-ray submersion dose of, air-ground interface effect on 759

Lead
  Content in blood of residents of Toulouse, France 483
Lead-210
  Analysis in surface air by α spectrometry 495
  Content in blood of residents of Toulouse, France 483
  Radioactivity of, natural 15
Lead-212
  Concentration in thorium and uranium ore Amang upgrading plants 391
Lungs
  See Respiratory System

Magnetic Fields
  Relationship between power-frequency, and suicides 267
Man (see also Atomic Bomb Survivors, Human Populations)
  Neutron activation of sodium in 105
  Radiation dose distribution within and total dose to body of acutely overexposed 77
  Radiation lethality from hematologic system failure, model for 83
  Suicidal deaths of, relationship to power-frequency magnetic fields 267
  Tritium excretion by, excessive water intake for enhancing 825

Neoplasms (see also Carcinogenesis)
  Correlation between lung cancer and phosphate mining and processing 171
  Data for deceased Hanford workers, suggestion for analyzing 201
  Development in hamsters following exposure to radon progeny and uranium ore dust 135
  Measures to minimize excess cancer after nuclear attack 455
  Risk factors for, use of BEIR-III Report for evaluating 769
  Risk from low-level radiation, Gofman doubling dose in estimating 203, 204
  Risks for A-bomb survivors from revised dose estimates 666
Neutrons
  Capture by sodium in phantoms and human body, activity from 105
  Detection of, response of Andersson-Braun rem counter to various spectra 671
  Dose equivalent based on ICRP Publication 26, effective 400
  Dose-equivalent values for, spectrum-averaged 774
  Dose estimates for Hiroshima and Nagasaki, revised 663
  Dose estimation for highly degraded spectra, limitations of ICRU spherical phantom for organ 383
  Dosimetry at 1 eV - 14 MeV, rem-equivalent personnel dosimeter for 349
  Dosimetry of albedo, response of TLD area monitors on concrete walls 543
  Dosimetry of, recent developments in personnel 686
  Dosimetry of, sensitivity of Kodak-Pathe LR-115 recoil track detector for 505
  Kerma transmission through shielding materials for Fermilab Neutron Therapy Facility 184
  RBE for A-bomb survivors from revised dose estimates 666
Nevada
  Radiation exposure to offsite population from nuclear tests, 1951 - 1970 243
Nuclear Explosions (see also Fallout)
  Civil defense against excess radiogenic cancer 455
  Detection of Chinese, in Canada 449
  Dose estimates for Hiroshima and Nagasaki, revised 663
  Fallout environmental monitoring of Chinese, in Taiwan 489
  Radiation exposure to offsite population from Nevada tests, 1951 -1970 243
Nulcear Facilities (see also Power Reactors, Production Reactors)
  Radioactivity environmental monitoring in Taiwan 489

Occupational Exposure
  Data for deceased Hanford workers, suggestion for analyzing 201
  Dose distribution analysis indicating effect of dose limits 465
  Radon daughter dosimetry when α energy is not discriminated 477
  Record notebook used in French nuclear industry 413
  Retention of uranium thorax burdens in fuel fabricators 393
  Risk assessment in long-term, logistic function for 255
  Risk from low-level, Gofman doubling dose in estimating 203, 204

Palladium-103
  X-ray detection efficiencies for, in lungs 619
Phosphates
  Mining and processing of, possible association with lung cancer 171
Photographic Film
  Use to estimate exposure near TMI 195
Photographic Film Dosimeter
  Comparison with pocket chamber dosimeter for personnel dosimetry 835
Plants
  Aging effects of ^{137}Cs and ^{90}Sr availability to 293
  Curium-244 uptake by, from naturally weathered contaminated soil 69

Plutonium
Radiation protection research and standard setting for internal emitters 703
Radiation protection standards for 571
Plutonium-238
Ingestion by cattle on contaminated range 285
Removal of $^{238}PuO_2$ from hamster lungs using Puchel and DTPA 387
Plutonium-239
Concentration at sea surface and in sea spray 279
Concentration in honey 554
Gastrointestinal absorption in hamster after ingestion in drinking water 780
Ingestion by cattle on contaminated range 285
Inhalation carcinogenesis of repeated exposures to $^{239}PuO_2$ in rats 629
Plutonium-240
Concentrations in honey 554
Poland
Radon exhalation rates of dwellings in 548
Polonium-210
Analysis in surface air by α spectrometry 495
Potassium-40
Concentrations in honey 554
Power Reactors
Iodine-131 contamination in TMI environs 297
Operational safety, comments on 683
Radiation dose following TMI incident, use of photographic film for measuring 195
Radionuclide release from, sewage sludge as indicator for 815
Production Reactors
Closure of Hanford, decrease of radionuclides in Columbia River biota following 59

Radiation (see also Alpha Particles, Beta Particles, Electromagnetic Radiation, Gamma Radiation, Neutrons, Solar Radiation, X radiation)
Risks from, informing public on 589
Uses in China, beneficial 577
Radiation Detectors
See Dielectric Track Detectors, Ionization Chambers, Photographic Film Dosimeters, Scintillation Detectors, Semiconductor Detectors, Thermoluminescence Dosimeters
Radiation Doses (see also Occupational Exposure)
Assessment of environmental, proposals on use of BEIR-III Report in 769
Assessment of gamma-ray, due to finite plumes 319
Calculating spectrum-averaged values of neutron dose equivalent, difficulties in 774
Comments on ALARA limits 684, 685
Concept of commitment, equivalent, and collective 379
Distribution within and total dose to body of acutely overexposed person 77
Effective dose equivalent for neutrons based on ICRP Publication 26 400
Estimates for Hiroshima and Nagasaki, revised 663
Estimation for degraded neutron spectra, limitations of spherical phantom for 383
Estimation of external, for offsite population from Nevada nuclear tests 243
Estimation of internal exposure due to radionuclides, modified power function model for 749
Exposure patterns and ALARA in U. K. universities 727
Health effects of low-level 419, 422
Irradiation geometry effects on dose-equivalent index 657
Lethality in man from hematologic system failure, model for 83
Measurement following TMI incident, use of photographic film for 195
Measurement for Gammacell-220 drawer transit 527
Measurement of internal, model for use in 341
Time dependence of, following inhalation of radionuclides 385
Radiation Incidents
Dose distribution within and total dose to body of acutely overexposed person 77
Iodine-131 contamination of TMI environs 297
Radiation Protection
Comments on ALARA limits 684, 685
Measures to minimize excess cancer after nuclear attack 455
Overview of IRPA 5th International Congress 3

Policy in medical research center 709
Radiation warning symbol, origin of 416, 417
Standards development for, 1925 - 1940 227
Standards for internal emitters Ra and Rn 437
Standards for Pu 571
Standards for, radiobiological input to 799
Titles of papers published by Chinese Radiation Protection Society 585
Radioactive Effluents
Dispersion rates of tritiated water within meters of release site 191
Gamma exposures due to finite plumes 319
Radioactive Wastes
Responsibility for, professional engineering 202
Radionuclides (see also Fallout)
Dissolution from neutron-activated coal dust, sterile method for testing 547
Evaluation of terrestrial pathways of particulate, into foods 735
Inhalation of, time dependence of dose delivered to organs following 385
Internal exposure due to, modified power function model for 749
Radiation protection policy in medical research center 709
Release from nuclear power plants, sewage sludge as indicator for 815
Transformation in respiratory tract, method for determining number of 828
Radiotherapy Facilities
Neutron kerma transmission through shielding materials for Fermilab 184
Radium
Radiation protection standards for 437
Radium-226
Analysis by emanation method, international comparison 178
Analysis by Lucas emanation method, random errors in 47
Radon
Content in water supplies in Houston, Texas, population dose from 599
Equilibrium between radon and its daughters in mine air, chamber for simulating 175
Measurement in air, electrets for 35
Radiation protection standards for 437
Radon-219
Radiological impact on ^{222}Rn risk assessments 165
Radon-220
Measurement in air, electrets for 35
Radon-222
Concentration in houses using stone magazines for heat accumulation 29
Content in buildings, effect of insulation on 686
Emanation from U ores and tailings, effect of freezing on 410
Exhalation rates in dwellings in Poland 548
Monitor for environmental, continuous 405
Risk assessment, radiological impact of ^{219}Rn on 165
Radon Progeny
Carcinogenic risk associated with radon spas 807
Concentration in open air and interiors in Italy 23
Dosimetry when α energy is not discriminated 477
Equilibrium between radon and its daughters in mine air, chamber for simulating 175
Exposure to, development of lesions in hamster following 135
Measurement in air, field method for 403
Reactors
See Power Reactors, Production Reactors
Respiratory System
Correlation between lung cancer and phosphates mining and processing 171
Radionuclide transformations in, method for determining number of 828
X-ray detection efficiencies for ^{103}Pd in lungs 619
Rodents
Iodine-131 in thyroids of meadow voles near Three Mile Island Plant 297
Lesions in Syrian Golden hamsters following exposure to radon daughters and uranium ore dust 135
Plutonium-238 dioxide removal from hamster lung using Puchel and DTPA 387

Plutonium-239 dioxide inhalation carcinogenesis in rats 629
Plutonium-239 gastrointestinal absorption in hamster after ingestion in drinking water 780
Ruminants
Americium and plutonium ingestion by cattle on contaminated range 285
Ruthenium-106
Inhalation of $^{106}RuO_4$ by beagles, metabolism and dosimetry of 303

Scintillation Detectors
Advantages of CaF_2 over ZnS for α particles 188
Development for continuous monitoring of environmental ^{222}Rn 405
Semiconductor Detectors
Development of high-range skin dose rate meter using Si diode 371
Shielding Materials
Efficacy of syringe shields for ^{99m}Tc 535
Neutron kerma transmission through Fermilab Neutron Therapy Facility 184
Sodium
Neutron activation in phantoms and human body 105
Soils
Aging effects on ^{137}Cs and ^{90}Sr uptake by plants 293
Curium uptake by plants from naturally weathered contaminated 69
Solar Radiation
Monitoring for high-altitude aircraft 607
Strontium-90
Collection of fallout, regional representativeness of 823
Concentrations in honey 554
Uptake by plants, aging effect on 293
Sweden
Cobalt-60 content in sewage sludge as indicator of nuclear power plant releases 815

Technetium-99m
Radiation dose to bladder wall following administration of ^{99m}Tc-microspheres and ^{99m}Tc-DPTA 777
Syringe shields for, efficacy of 535
Texas
Radiation dose to population due to Rn in Houston water supplies 599
Thermoluminescence Dosimeters
Performance for low-energy scattered X-rays 835
Phototransfer, sensitization, and re-estimation of dose in LiF 363
Properties of $CaSO_4$:Dy ribbon, in low-dose region 674
Response of albedo neutron, used as area monitors on concrete walls 543
Response of Panasonic, to submersion in and distant exposure to ^{133}Xe 513
Thorium
Lead-212 concentration in Amang upgrading plants for ores of 391
Thoron
See Radon-220
Thorotrast
Identification and mapping in tissue by analytical electron microscopy 677
Tritium
Dispersion rates of tritiated water within meters of release site 191
Excretion from man, excessive water intake for enhancing 825

United Kingdom
Radiation exposure patterns and ALARA in universities in 727
Uranium
Exposure to ore dusts of, development of lesions in hamsters following 135
Lead-212 concentration in Amang upgrading plants for ores of 391
Radiation protection research and standard setting for internal emitters 703
Radon-222 emanation from ores and tailings of, effect of freezing on 410
Thorax burdens in fuel fabricators, retention of 393
Trace content in spices and condiments 680

Water
Dispersion rates of tritiated, within meters of release site 191
Plutonium-239 concentration at sea surface and in sea spray 279
Radiation doses to population due to Rn in water supplies in Houston, Texas 599
Radioactivity in drinking water, EPA regulations for 417
Radon daughters in radon spas, carcinogenic risk from 807
Sampler for low radioactivity measurements 381
Separation from biological and environmental samples, cyclohexane use in 413

X Radiation
Dose-equivalent index for, effect of irradiation geometry on 657
Dosimetry of low-energy scattered, TLD 835
Dosimetry of, properties of $CaSO_4$:Dy ribbon in low-dose region 674
Health effects of low-level 419, 422
X-ray Equipment
Linearity of diagnostic, comment on 689
Xenon
Gamma-ray submersion dose of, air-ground interface effect on 759
Xenon-133
Detection response of Panasonic dosimeters to submersion in and distant exposure by 513

Zinc-65
Content in Columbia River biota following Hanford reactors' closure